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**To cite this article:** Fanny Teoule (2025) Community gardens as natural third places: a conceptual framework, *Contemporary Social Science*, 20:4, 639-661, DOI: [10.1080/21582041.2025.2587880](https://doi.org/10.1080/21582041.2025.2587880)

**To link to this article:** <https://doi.org/10.1080/21582041.2025.2587880>



Published online: 14 Nov 2025.



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# Community gardens as natural third places: a conceptual framework

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## ABSTRACT

Amid global climate and biodiversity crises, urban communities, particularly in Europe, are seeking integrative socio-ecological solutions. This paper examines two key concepts for reimagining urban communal spaces: community gardens and third places. We introduce the concept of natural third places, defined as hybrid urban commons that merge informal community social functions with ecological engagement, exemplified by community gardens. This conceptual framework extends third place theory by integrating environmental dimensions and spatial justice considerations, broadening the understanding of inclusive, sustainable urban commons. The study articulates how natural third places facilitate socio-ecological transitions and contribute to more equitable, resilient urban futures.

## ARTICLE HISTORY

Received 11 April 2025  
Accepted 27 October 2025

## KEYWORDS

Community gardens; third places; natural third places; socio-ecological transitions

## Introduction

The world's cities are confronting converging environmental and social crises. Rapid urbanisation, climate change, and biodiversity loss are straining urban life and amplifying inequalities. Extreme climate-related events (from heatwaves to floods) have become more frequent, underscoring the urgency of developing sustainable, community-centered responses in cities (Huq & Deacon, 2025). In parallel, the COVID-19 pandemic has illuminated the importance of local social infrastructure: when lockdowns closed cafés, libraries, and other gathering spots, communities felt the loss of these informal meeting places, and many turned to outdoor green spaces for relief (Luo et al., 2021). In this context, there is a growing need to rethink the relationship between urban society and the environment and to foster spaces that simultaneously build social cohesion and ecological resilience. This paper responds by examining two interrelated concepts: community gardens (CGs) and third places (TPs), as grassroots innovations driving socio-ecological transitions. We propose a new theoretical framing of CGs as 'natural third places,' arguing that these community-managed green spaces function as critical informal public places for urban social life and sustainability. Below, we clarify these key concepts and outline the theoretical and methodological framework guiding our inquiry.

We define CGs as shared urban green spaces where local residents collectively engage in gardening and social activities. They often emerge on underutilised land (vacant lots, park corners, schoolyards) and are managed by community members for growing food or flowers, recreation, education, and neighbourhood beautification (Clarke et al., 2018). Beyond food production, CGs provide important venues for social interaction, cultural exchange, and connection to nature within the city (Okvat & Zauta, 2011). A rich body of literature documents the benefits of CGs, including improved mental and physical health, stress reduction, environmental learning, and stronger social bonds among participants (Clarke et al., 2018; Luo et al., 2021; Okvat & Zauta, 2011). For example, during the COVID-19 pandemic, residents increasingly used CGs and other local green spaces as safe outlets to cope with stress and maintain social ties outdoors (Luo et al., 2021). In this way, CGs serve not only as sites of urban agriculture but as neighbourhood social hubs.

The concept of TP comes from urban sociology. Oldenburg (1991) famously described TPs as the informal public gathering spaces that are neither home (the 'first' place) nor workplace (the 'second' place), but are essential for community life (Oldenburg, 1991). Classic examples of TPs include cafes, bars, teahouses, barber shops, libraries, and other 'hangouts' where people regularly meet casually for conversation and companionship. Oldenburg emphasised that true TPs are accessible, welcoming, and neutral grounds that foster social equality and civic engagement by bringing diverse people together in a playful, relaxed atmosphere (Oldenburg, 1991). Key characteristics include accessibility (ideally walking distance in one's neighbourhood), regular clientele (familiar faces and 'regulars'), a neutral and unpretentious setting, and conversation as the main activity. These spaces are seen as the 'living room' of society, anchors of community where social networks form and a sense of belonging is built. In recent years, scholars and practitioners have expanded Oldenburg's idea, noting that TPs do not need to be indoors or commercial; parks, gardens, and other green spaces can also function as open-air TPs that bring people together around leisure and nature. Indeed, urban green spaces are increasingly recognised as green TPs that promote community connectedness alongside environmental benefits (Du et al., 2023; Valentim et al., 2025).

Bridging these concepts, CGs can be understood as TPs in a natural setting. Recent studies explicitly identify CGs as exemplars of TPs, highlighting their role in fostering inclusive social interaction, trust, and mutual aid among neighbours (Kanosvamhira, 2024; Tchekemian, 2024; Valentim et al., 2025). For instance, Valentim et al. (2025) observe that urban CGs serve as vital social spaces, informal gathering spots that function as TPs, by connecting people across demographics and enhancing well-being. Similarly, case studies from diverse cities find that CGs often become neighbourhood 'hangouts' where friendships are formed, knowledge is exchanged, and community identity grows (Kanosvamhira, 2024; Zhuang & Lok, 2025). However, the term 'natural third place' (NTP) has not yet been formally defined in the scholarly literature. We introduce NTP to denote a sub-category of TPs that are characterised by a predominantly natural, green environment and community-driven ethos. In other words, a NTP is 'a social environment separate from home and work where community life happens within a natural setting' (Sustainability Directory, 2025). These are public spaces, open to all, inviting regular informal encounters within greenery. Classic TP qualities (accessibility, informality, social mixing) are present, enhanced by the restorative and inclusive power of nature. Examples include CGs, urban farms, pocket parks with communal seating, or a neighbourhood

orchard, not just green landscapes, but true social hubs where people gather in an organically convivial atmosphere. The 'natural' in NTP thus refers both to the physical setting (vegetated, outdoor space) and the often organic, bottom-up manner in which these places emerge and operate. By explicitly defining CGs as NTP, we aim to highlight how they simultaneously fulfil a social function (as TPs) and an ecological function (as green urban infrastructure). This novel concept helps fill a gap in existing research: while CG studies document social benefits and TP theory extols informal community venues, there has been little theoretical integration of the two. Recognising CGs as NTP positions them at the intersection of social and environmental domains, which is especially pertinent given current urban challenges.

Our analysis is grounded in two complementary social theories that illuminate the dynamics of place-based community initiatives: Henri Lefebvre's theory of the production of space and Anthony Giddens' structuration theory (structure-agency dynamics). Lefebvre's perspective, articulated in *The Production of Space* (1991), insists that space is not merely a neutral backdrop for social processes but is actively produced and shaped by those processes. From this viewpoint, a CG is far more than a physical plot of urban land; it is a social space created by the interactions, practices, and meanings that people attach to it. Lefebvre's conceptual triad of spatial production (spatial practices, representations of space, and representational spaces) offers a lens to examine CGs at multiple levels (Lefebvre, 1991). The daily routines of gardening and gathering (spatial practices) gradually transform an idle lot into a community node; the way planners or authorities perceive and map these gardens (representations of space) might differ from how gardeners and neighbours experience and imagine the garden as a lived place imbued with identity and fellowship (representational space). In short, Lefebvre's theory sensitises us to the bottom-up production of urban space: CGs exemplify how citizens can appropriate and recreate urban space for collective purposes, challenging purely top-down or commodified uses of land. This spatial-production lens aligns well with the idea of TPs, which are often informal, improvisational spaces born of community initiative rather than formal design.

At the same time, Giddens' structuration theory provides a valuable framework for understanding how CGs emerge and persist through the interplay of human agency and social structure. According to Giddens (1984), social life is a recursive process: individuals (agents) create and reproduce social structures through their actions, even as those structures constrain and enable future actions. In the context of CGs, agency can be seen in the grassroots actions of residents who organise a garden (planting, negotiating rules, fundraising, hosting events) while structure appears in the form of institutional contexts like land tenure systems, municipal policies, or cultural norms about public space. A CG's existence often depends on navigating structural factors (obtaining permission from the city, accessing resources through networks or nonprofits) while also harnessing the creativity and commitment of local volunteers. Structuration theory reminds us that community initiatives are shaped by, but also can reshape, the broader social structures around them. For example, a garden may start as an informal act of agency (neighbours guerrilla-gardening a vacant lot) and over time lead to structural changes such as new city support programmes or zoning adjustments for urban agriculture. In this paper, we pay close attention to this duality of structure and agency: how the intentional actions of community members (agency) produce a new shared space, and how existing structural

conditions (economic inequalities, urban land markets, governance frameworks) influence which spaces become gardens and who participates. This approach is informed by Giddens' concept of locales, the specific places where social interaction is constituted. Giddens notes that analyzing the 'time-space coordination of social activities means studying the contextual features of locales through which actors move in their daily paths' (Giddens, 1984). In other words, CGs can be studied as locales in which daily social life unfolds, situated within broader patterns of movement and time use in the city. Here we also draw on Torsten Hägerstrand's time-geography (Hägerstrand, 1970) to explicitly consider temporal-spatial constraints on urban interactions. Hägerstrand's framework introduces the idea of individual 'time-space paths' and 'time-space prisms,' illustrating how people's opportunities to meet are bounded by schedules, distances, and mobility. Applying this to CGs, we acknowledge that these gardens operate at particular times (e.g. weekend mornings, after-work hours) and in certain locations (often within residential neighbourhoods), which structure who can be present and when. The rhythms of daily life and the geography of the city thus critically shape participation in NTP. By integrating Giddens and Hägerstrand, we recognise that CGs as TPs exist within the flow of urban routines: they may become regular stops in residents' daily trajectories, offering a 'time-space niche' for social interaction that other environments (like workplaces or commercial spaces) do not provide. This theoretical grounding in spatial production, structure-agency interplay, and time-space dynamics ensures that our analysis goes beyond anecdotal descriptions but instead, we interpret CGs as socially produced places embedded in structural context and temporal patterns.

Conceptualising CGs as NTPs is not only a theoretical exercise; it directly speaks to pressing contemporary issues. Modern cities are experiencing what some have called a 'fragmentation of urban public space,' where opportunities for face-to-face social mixing are diminishing due to privatisation, digital substitution, and socio-spatial segregation. In this climate, TPs provide a crucial antidote to isolation and polarisation by nurturing everyday sociability (Oldenburg & Brissett, 1982). CGs, in particular, offer neutral ground that bridges social divides: young and old, longtime locals and newcomers, people of different cultures and classes can bond over the shared activity of gardening and a common stake in a piece of urban nature. Moreover, these NTP contribute tangible solutions to urban sustainability challenges. Studies have shown that CGs enhance urban resilience by improving local food security, offering cooling green refuge in overheated neighbourhoods, and strengthening social networks that are vital during crises (Clarke et al., 2018; Huq & Deacon, 2025). For example, a recent systematic review found that CGs significantly impact food access, climate adaptation, and community well-being, and notably, research interest in community gardening spiked during the COVID-19 pandemic as their value became more evident (Huq & Deacon, 2025). Cities like New York, Toronto, and Berlin have documented how gardens serve as community anchors during extreme events, providing shade and cooling during heatwaves, spaces for mutual aid distribution during pandemics, and even emotional support after natural disasters (Chan et al., 2015; Lal, 2020). In the post-COVID urban context, where many are seeking reconnection and outdoor engagement, CGs stand out as accessible TPs that are outdoors and thus inherently safer in public health terms (Clarke et al., 2018). Residents increasingly recognise the mental health benefits of green TPs, as gardening and casual socialising in these spaces alleviate loneliness and stress heightened by the

pandemic (Luo et al., 2021). Additionally, with climate change bringing more frequent extreme weather, CGs can bolster climate resilience at the neighbourhood scale, for instance, by mitigating urban heat island effects through vegetation and by fostering a culture of local self-reliance and knowledge-sharing on sustainability practices (Clarke et al., 2018). In light of global calls for societal transitions toward sustainability, including grassroots initiatives in climate action and disaster preparedness, CGs exemplify a practical, citizen-led approach to building more resilient and cohesive communities. They are living laboratories of socio-ecological transition: small in scale, but scalable in impact and rich in lessons about how communities can transform their environment and social relations in tandem. By situating CGs within the TPs framework, our study underscores their significance as urban green infrastructure, and as social infrastructure for healing and transforming urban life (Klinenberg, 2018). Framing CGs as NTPs shines a light on their dual role addressing contemporary environmental crises and social challenges: from climate adaptation and food security to post-pandemic social recovery and the rebuilding of inclusive public life in fragmented cities.

To develop the conceptual arguments in this paper, we conducted a structured literature review of scholarly and grey literature on CGs, TPs, and related concepts. A structured review is an appropriate methodological choice for our objectives because it combines systematic techniques for searching and screening literature with a flexible, integrative analysis of broad topics (Snyder, 2019). Unlike a full systematic review that aims for exhaustive coverage of a narrowly defined question, a structured (or 'semi-systematic') review allows us to map out and synthesise interdisciplinary knowledge on an emerging concept while maintaining rigour and transparency in the process. We followed clearly defined inclusion criteria and search strategies to ensure a comprehensive yet focused collection of sources. First, we identified key databases likely to contain relevant research: Scopus, Web of Science, and Google Scholar for academic literature, as well as specialised repositories for urban studies and sociology. We limited our search primarily to publications in English from approximately 2000–2023, reasoning that the past two decades cover the flourishing of CGs research and contemporary urban theory, while also including earlier foundational works (e.g. Jacobs, 1961; Hägerstrand, 1970; Giddens, 1984; Oldenburg, 1991; Lefebvre, 1991) for theoretical context. Our search keywords combined terms related to CGs (e.g. 'community garden,' 'urban gardening,' 'allotment gardens,' 'urban agriculture') with terms related to TPs and social space (e.g. 'third place,' 'informal public space,' 'social cohesion,' 'public gathering space,' 'urban commons'). We also included keywords to capture the sustainability transition context (e.g. 'socio-ecological transition,' 'urban resilience,' 'green infrastructure,' 'post-COVID'). These searches were supplemented by reviewing reference lists of key papers (snowballing) and including pertinent grey literature and reports (for example, municipal documents on CG programmes, NGO reports on urban green space, and online essays by practitioners) to ensure practical insights were considered alongside academic findings.

All identified sources were then screened in a stepwise manner: we first filtered by titles and abstracts to exclude off-topic works (for instance, studies purely about horticultural techniques or unrelated uses of 'third place' terminology). We included studies that provided empirical or theoretical insight on the social functions of CGs, the characteristics or impacts of TPs, or the interaction of community spaces with urban environmental and social challenges. Both quantitative and qualitative studies were included, as well as

literature reviews and conceptual papers. After preliminary selection, we evaluated full texts of the remaining sources to confirm relevance and quality. In total, our review encompasses around 35 studies on CGs (including prior systematic reviews such as Guitart et al., 2012) and 25 studies TP and related social infrastructure, along with several cross-cutting works bridging urban greening and community development. We then employed thematic coding to organise the literature's findings and concepts. Key themes that emerged include: the social benefits and functions of CGs (e.g. social inclusion, health, civic empowerment), the defining attributes of TPs (e.g. neutrality, regulars, playfulness), the spatial and temporal dimensions of community interactions, and the role of community-led spaces in addressing contemporary crises (climate adaptation, pandemic recovery, etc.). We paid special attention to identifying where the literatures on CGs and TPs intersect or diverge. This structured analytic approach allowed us to identify gaps, notably the lack of explicit conceptual linking of green spaces with TP theory, which our concept of NTP seeks to fill. By articulating our search and analysis process, we also provide transparency and replicability; our goal is that future researchers can build on this framework to further investigate NTP.

The remainder of this paper is organised as follows. In Section 1, we review the literature on CGs in urban environments, charting their historical emergence and the multiple roles they play in socio-ecological transitions (social, political, environmental, and economic). We draw on both academic studies and practice-based publications to paint a comprehensive picture of contemporary community gardening movements. Section 2 examines the concept of TP and related notions of informal public space, distilling the core characteristics of TP from Oldenburg's classic work and subsequent research. We highlight various types of TP identified in the literature and discuss how they contribute to urban social life. In Section 3, we synthesise the two strands by introducing and elaborating the concept of NTP. We argue that CGs constitute a distinct subset of TPs, and we detail the defining features, opportunities, and challenges of NTP as gleaned from the literature (for example, how they foster both social bonding and ecological awareness). We also consider any observable differences between NTP and more 'traditional' TP, as well as the implications of this concept for urban theory. Finally, Section 4 concludes the paper by summarising the key insights and discussing practical implications. We emphasise why recognising CGs as NTP matters for urban policy (e.g. planning and supporting such spaces in city design) and community practice (e.g. empowerment and inclusion strategies). We also identify areas for future research, such as comparative studies of natural vs. commercial TPs, or deeper investigation into the long-term impacts of CGs on urban resilience.

## 1. Community garden in socio-ecological transitions

CGs are a distinct form of urban green space that have played evolving roles in cities' socio-ecological transformations. To enhance conceptual clarity, it is crucial to distinguish CGs from related urban gardening practices such as allotment gardens, victory gardens, kitchen gardens, and public parks (Table 1). CGs are typically defined as collectively managed plots in urban areas where residents cooperatively grow plants (often vegetables and fruits) and share the harvest and also the space as a social resource. This contrasts with allotment gardens, where individuals or families tend separate plots within a

**Table 1.** Evolution of urban gardening types, their historical context, and their roles in socio-ecological transitions (Source: Author).

| Type of garden                                           | Period & Context                                                                                                                                    | Socio-ecological transition role                                                                                                                                                                                                                                                   |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allotment gardens (Europe)                               | Began in nineteenth-century industrial Europe; expanded in early twentieth century and socialist Eastern Europe.                                    | Integrated nature into industrial cities; improved worker nutrition and well-being (early urban sustainability effort). Under socialism, alleviated food shortages (informal food system).                                                                                         |
| Victory gardens (War gardens)                            | WWI and WWII in North America, Europe; also Depression-era relief gardens (1930s).                                                                  | Short-term transition of ornamental or idle urban land to food production in crises; boosted wartime resilience and civic morale. Demonstrated capacity of cities to supply food in emergencies.                                                                                   |
| Community gardens (First wave)                           | Late 1960s-1980s, North America and Western Europe; grassroot responses to urban disinvestment (e.g. inner-city neighbourhoods).                    | Bottom-up urban regeneration: reappropriation of vacant lots for green space and food. Pioneered urban sustainability transitions by addressing urban blight, food insecurity, and social fragmentation. Influenced policy toward community-led development.                       |
| Contemporary urban community gardens & Urban agriculture | 1990s-present, global spread (North and South). Often supported by NGOs or city programmes; tied to sustainability, health, and resilience agendas. | Part of socio-ecological transformation toward sustainable cities (local food production, biodiversity, climate adaptation). Serve as 'living labs' for environmental education, social innovation, and building community resilience (e.g. to economic crises or climate events). |

larger garden site (a model common in Europe since the nineteenth century), or kitchen gardens, which are private household food gardens. Victory gardens (or ‘war gardens’) were an emergency response during World Wars I and II (millions of Americans, Britons, and others grew vegetables in yards and parks to support the home front) but were typically short-term and individually managed (Drescher, 2001). Unlike urban parks designed primarily for recreation or ornamentation, CGs emphasise participatory cultivation and often food production. In short, CGs are ‘collectively managed urban agriculture’, nested within the broader category of urban and peri-urban agriculture (UPA) (Rao et al., 2022). UPA encompasses ‘horticultural, agricultural, and farming activities carried out on small plots of land in and around urban centres’ (Rao et al., 2022), including home gardens, allotments, rooftop farms, and CGs. Recent research positions CGs as a key subset of UPA, contributing to all three pillars of sustainability (environmental, economic, and social). For example, urban agriculture initiatives like CGs can enhance ecosystem services, food security, often foster social cohesion and empower communities by enabling bottom-up innovation (Langemeyer et al., 2021). In this way, CGs are defined by their physical form (gardening on urban land), and by their collective, community-driven ethos that differentiates them from more individualistic or top-down forms of urban greening.

Historically, the emergence of CGs has unfolded through several phases, each tied to specific socio-ecological contexts and often distinct from the Eurocentric or Americentric narratives that dominate the literature (Guitart et al., 2012) (Table 1). Early antecedents can be traced to the allotment garden movements in industrialising Europe in the 19th and early 20th centuries. Allotment gardens (e.g. Schreber gardens in Germany, jardin

ouvriers in France, allotments in Britain) were created to provide urban workers and the poor with access to land for food and healthy recreation (Baudry-Stelmacher, 2018; Crouch, 1989). These were usually sanctioned by governments or charities, with plots leased to individuals. During and after the World Wars, crisis gardening efforts proliferated: in addition to victory gardens in the US and UK, many European cities expanded allotments to fight wartime hunger. For instance, Table 1 illustrates how wartime victory gardens (1914-1918 and 1939-1945) prompted a surge in urban food production, albeit temporarily. After World War II, the trajectory of allotment gardening diverged geographically. In Western Europe and North America, improved economic conditions led to a decline in allotment usage in the post-war decades, as food scarcity waned and recreational uses of urban land changed (Baudry-Stelmacher, 2018; Crouch, 1989; Ponizy et al., 2021). By contrast, in Eastern Europe and other socialist contexts, allotment gardens greatly expanded from the 1950s-1980s as vital supplements to state food systems (Baudry, 2010; Ferris et al., 2001; Ponizy et al., 2021; Schmelzkopf, 1995). These socialist allotments functioned as semi-collective spaces under state oversight, differing from both Western allotments and the more informally organised CGs that would rise elsewhere. Notably, allotment gardening's persistence in the Eastern Bloc reflected an implicit socio-ecological transition: urban populations collectively coped with material scarcity by reverting to local food cultivation, building a form of urban resilience long before that term gained currency. Scholarly analyses have begun to document these historical phases, for instance Ponizy et al. (2021) detail how allotment gardens under socialism were geared toward 'edible plants to cope with chronic food shortages' despite their recreational veneer. Such cases underscore that urban gardening has not been monolithic globally; it has served varied purposes from subsistence to leisure, and its prevalence has waxed or waned with socio-economic transitions.

CGs in the contemporary sense began to emerge more explicitly in the late twentieth century, often as grassroots responses to urban crises and as alternatives to traditional allotments (Table 1). In the United States, the modern CG movement is commonly dated to the 1970s, when citizens in disinvested inner-city neighbourhoods (like New York City's Lower East Side) started reclaiming vacant lots and derelict land to create shared gardens. These initiatives were typically bottom-up: for example, New York's Green Guerrillas and other activist groups illicitly planted and cleaned up abandoned parcels, spurring the city's first generation of CGs. This wave of urban gardening was born not of government sponsorship but out of residents' desperation and creativity amid urban decline (Francis, 2003; Lawson, 2005; Mitchell, 1995; Ponizy et al., 2021; Purcell & Tyman, 2014). Scholars have noted that 'the diverse patchwork of over 800 CGs that took root in New York since the 1970s [was] born not out of government support, but rather its absence' (Staeheli et al., 2002; as cited in Purcell & Tyman, 2014). Similar trends occurred in other cities across North America and Western Europe during the 1980s and 1990s, where CGs became tools for urban revitalisation, food justice, and neighbourhood empowerment in the face of neoliberal disinvestment. In the UK, for instance, 'community allotments' and city farms grew in popularity alongside a broader environmental movement. Meanwhile, younger generations began gravitating toward the more collective ethos of CGs. Traditional allotment societies often had aging membership and barriers to entry (long waiting lists, fees, rules), pushing younger or less-resourced urbanites toward informal CG projects. Studies in Europe

confirm this demographic shift: in Poland and Germany the average age of allotment plot-holders is around retirement (Ponیزی et al., 2021). CGs thus signalled a conceptual shift from the individualistic, often apolitical cultivation of allotments to a more collective, civically engaged practice imbued with goals of social inclusion and urban re-appropriation of neglected space. For example, Prinzessinnengarten<sup>1</sup> in Berlin, whas transformed a vacant lot into a multifunctional, socially inclusive urban space blending food production, ecological education, and civic activism (Clausen, 2015). As Cumbers et al. (2018) argue, such gardens offer spaces for collective agency, place-making, and democratic participation. CGs contribute significantly to urban resilience and food security, particularly when embedded in wider networks of community-based practices (Huq & Deacon, 2025).

Community gardening practices (even if not always labelled as such) exist worldwide and have taken on unique forms in the Global South, Asia, and Oceania (Table 1). For example, many rapidly growing African cities have long traditions of urban agriculture out of necessity: in cities like Nairobi and Lagos, thousands of residents grow food on roadside verges, vacant plots, and community sites to supplement their diets and incomes (Hovorka et al., 2009; Mbiba, 1995). In Latin America, urban CGs often intertwine with social movements around land rights and food sovereignty: Havana's organopónicos (urban organic gardens) famously emerged during the 1990s Special Period, illustrating how a severe economic crisis spurred a transition to local self-provisioning (Górna & Górný, 2020). In South Africa's townships, as another case, CGs in places like Cape Town's Cape Flats are primarily driven by a need for food security but also serve broader social purposes (Kanosvamhira, 2024). Studies note that even when food production is the main objective in these contexts, gardens become hubs for community learning, solidarity, and healing in communities fractured by apartheid's legacy (Kanosvamhira, 2024). Across the Global South, then, CG soften function as informal safety nets and spaces of empowerment, helping urban residents navigate the stresses of poverty, unemployment, and inadequate food access. At the same time, there is increasing interest in formalising and studying these efforts. Rao et al. (2022) found that literature on urban agriculture has been heavily skewed to temperate Global North cities, with far fewer studies on African and Asian cities. This geographic bias is gradually being addressed as scholars recognise that the '15 fastest-growing cities' are now in Africa and that UPA (including CGs) may play a critical role in the sustainability and resilience of these rapidly urbanising areas (Rao et al., 2022).

The urban socio-spatial theory lens further deepens our understanding of CGs' transformative role. CGs are frequently cited as examples of urban residents reclaiming space for use-value rather than exchange-value, reclaiming vacant land for community use instead of profit-driven development (Calvet-Mir & March, 2017). This aligns with Henri Lefebvre's ideas of the right to the city and the production of social space. Indeed, the conflict between community gardeners and city authorities is often a contest of values: the use value of green commons vs. the exchange value of real estate (Schmelzkopf, 1995). The very act of starting a CG on an abandoned lot can be seen as what Lefebvre called a 'trial by space', a test of whose vision for the city will prevail (Lefebvre, 1991). It is also a form of collective action: neighbours organising to improve their environment and asserting their collective right to shape urban space. Recent scholarship explicitly frames CGs as a new kind of urban commons, requiring collective governance and cooperation (Eizenberg, 2012; Rogge et al., 2018). Nettle (2014)

describes community gardening as a social movement and highlights the tactics of collective action gardeners use to achieve social change. They also resonate with broader transition theories in the socio-ecological realm: CGs can be viewed as grassroots innovations (Seyfang & Smith, 2007) that prefigure sustainable urban futures by building community resilience at the local level. For instance, after disasters like Hurricane Katrina or the COVID-19 pandemic, CGs have been noted to bolster recovery and food security, acting as nodes of resilience, providing social ‘insurance’ value, preserving practices and knowledge that enhance a city’s capacity to absorb shocks (Langemeyer et al., 2021). Thus, whether in routine times or crises, CGs contribute to socio-ecological transitions by reconnecting urban populations with ecological practices, shortening food circuits, and strengthening social fabrics.

Building on these insights, the following section turns to the concept of TPs, a cornerstone in urban sociology that illuminates how spaces of informal encounter and social interaction sustain community life. By further situating CGs within this broader theoretical lineage (Section 3), we can better understand how they operate as ecological infrastructures and social anchors in the everyday fabric of urban life.

## 2. Third places

TP are informal, semi-public spaces that facilitate regular social interaction outside of home (the first place) and work (the second place). The concept was introduced by sociologist Oldenburg (1991), who observed the erosion of public gathering spots in car-centric, suburbanising America. Oldenburg defined TPs as neutral ground where individuals can gather voluntarily, on equal footing, regardless of social or economic status. Classic examples include neighbourhood cafés, pubs, and other inexpensive, accessible locales that invite conviviality (Jeffres et al., 2009; Oldenburg, 1991). These venues provide a ‘home away from home’ atmosphere that fosters casual conversation, community ties, and a sense of belonging. Subsequent scholars have echoed these defining features: accessibility (easy to reach and enter), inclusivity (welcoming to diverse groups), and an emphasis on social interaction over commercial or private functions (Table 2). Urbanist Whyte (1980), for instance, noted that successful public spaces encourage chance encounters by offering comfortable design and flexible use, underscoring that openness and spontaneity are key to a thriving TPs.

Oldenburg’s work provided the foundational definition of TPs, later research expanded the conceptualisation of what constitutes a TP and how such spaces function in different

**Table 2.** Key characteristics of Third Places as defined by Oldenburg (1991) (Source: Author).

| Characteristics of TPs | Description                                                  |
|------------------------|--------------------------------------------------------------|
| Informality            | Informal spaces where individuals can be themselves.         |
| Accessibility          | Easily accessible and open to everyone.                      |
| Regularity             | Places visited regularly, fostering familiarity.             |
| Low-key                | Low-pressure environments where people can relax.            |
| Multi-purpose          | Venues for various activities, e.g. socialising or reading.  |
| Good food and drink    | Often serve food and drinks, contributing to the atmosphere. |
| A level of sociability | Lively places for social interactions.                       |
| Neutral ground         | Unassociated with specific groups, open to all.              |
| Democratic spaces      | Equal footing for people of diverse backgrounds.             |
| A source of community  | Fostering social connections and a sense of belonging.       |

contexts. Some scholars conceptualise a TP as a social configuration or network of interactions embedded in space and time, drawing on Norbert Elias's notion of figuration (1990). From this perspective, a TP is not merely a physical locale but an organised set of inter-relationships among people, situated in a particular setting and moment (Rampa, 2015). This theoretical lens widens the scope beyond Oldenburg's cafés and taverns, allowing researchers to consider any environment, physical or virtual, that sustains informal communal ties.

Over the past few decades, the TPs concept has evolved in tandem with societal and technological change. Researchers from various fields (urban planning, anthropology, public health, etc.) have examined TPs across a broader range of environments. Importantly, contemporary TPs are no longer limited to the traditional small-scale venues of Oldenburg's era. New organisational dynamics have emerged as TPs adapt to changing work patterns, lifestyles, and technologies. For example, the rise of 'hybrid' spaces blending work and leisure is notable: coffee shops now double as remote offices with Wi-Fi, and dedicated coworking spaces have proliferated as communal workplaces for freelancers and teleworkers. These work-oriented TPs reflect a shift in organisational model (often privately operated or membership-based) yet they strive to maintain the open, community-centric ethos of a TPs (Rampa, 2015). Likewise, the digital revolution has given birth to virtual TPs, from online forums to social media communities, which serve similar functions of socialising and networking beyond physical constraints. Even in physical terms, TPs today appear in diverse cultural and geographic contexts: studies document TP analogues in settings ranging from Japanese cities (e.g. manga cafés contributing to community well-being) to post-socialist Europe (e.g. libraries and museums acting as community hubs). Moreover, TP-like activities can begin informally, such as a neighbourhood pop-up event or community garden, and later become established fixtures of local social infrastructure. Through this broad evolution, the core idea endures: TPs are associated with positive outcomes like stronger social connectedness, improved mental health, and greater community resilience. Empirical research supports these benefits, for instance, communities with more accessible TPs report higher social cohesion and quality of life (Jeffres et al., 2009). At the same time, the growing institutional interest in TPs (by policymakers, developers, and organisations) has sparked debate about preserving their original character. Observers caution that as cities deliberately create or co-opt TPs (e.g. government-funded innovation labs or commercial 'community spaces'), there is a risk of drifting toward exclusive, productivity-focused venues that cater to specific elites, thus undermining the egalitarian, grassroots spirit of true TPs. Maintaining the balance between organic community ambience and formal organisational goals is an ongoing challenge in the evolution of the TP concept (Rampa, 2015; Levy-Waitz, 2018; Mariotti et al., 2024).

Given the expanding spectrum of TPs, scholars have proposed typologies to classify their various forms and functions. Establishing a typology clarifies the concept's breadth and aids in identifying where new sub-categories, such as NTP, might fit within the larger landscape. Table 3 outlines a synthesised classification based on prior models (e.g. Rampa, 2015; Lorre, 2018; Mariotti et al., 2024) and recent literature. In general, TPs can be grouped into several often overlapping categories:

- Cultural TPs: Spaces primarily dedicated to arts, culture, and creative expression that also foster social mixing. These include community art centres, music venues, or repurposed industrial sites turned into cultural hubs. Such places often intertwine

**Table 3.** Typology of Third Places (Source: Author).

| Type of TPs     | Description                                                                                                                                                                                                                                                                                                                         | Examples                                           |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Cultural        | Spaces that facilitate creative practices and the construction of cultural identity, often in industrial wastelands, squats, or multidisciplinary projects. They encourage social interaction, belonging, and collective creativity, forming cultural commons that foster innovation networks (Kniaż, 2017; Mariotti et al., 2024). | Rap music, art squats, multidisciplinary projects. |
| Educational     | Locations complementing formal education, serving as intermediaries between home and school. They mediate between home, school, and community and now include digital learning environments (Murzyn-Kupisz & Działek, 2015; Yen et al., 2017).                                                                                      | Libraries, museums, virtual learning platforms     |
| Workplace       | Fragmented facilities accommodating workers, in response to the changing nature of work and gig economy; flexible working environments. They combine professional functionality with opportunities for social interaction and networking (Mariotti et al., 2024; Rampa, 2015).                                                      | Coworking spaces, cafés, telecenters               |
| Innovative hubs | Physical spaces where technology (but not necessarily) and innovation enthusiasts collaborate on projects, share resources, and learn from one another. They act as community-driven ecosystems that support creativity, peer learning, and social empowerment (Bruns, 2007; Gauntlett, 2011; Mariotti et al., 2024).               | Makerspaces, hackerspaces, fablab                  |

creative practice with community engagement, exemplified by art collectives in converted warehouses or even emergent cultural scenes (e.g. hip-hop music venues doubling as social hangouts). They help construct shared cultural identity and innovation networks (Kniaż, 2017).

- Educational TPs: Environments that support informal learning and skill-sharing outside formal institutions. Public libraries and museums are classic examples, as they provide an intermediate space between home and school for education, leisure, and civic interaction (Murzyn-Kupisz & Działek, 2015). Even maker spaces or adult learning circles can serve as educational TPs. In modern contexts, online platforms for collaborative learning or creativity (e.g. coding clubs, forums) also function as TPs for knowledge exchange (Yen et al., 2017).
- Work-Oriented TPs: Often termed ‘third workplaces,’ these cater to the need for flexible work and collaboration outside the traditional office. They range from coffee shops with free Wi-Fi and co-working offices, to business lounges and telecenters. Such spaces are typically privately operated but open to the public or members, blurring the line between public and private realms. They have gained prominence with the rise of the gig economy and remote work, offering social contact and networking alongside functional workspace (Mariotti et al., 2024; Rampa, 2015).
- A subtype of work-oriented TPs focused on innovation, fabrication, and technology. These include makerspaces, hackerspaces, and fab labs (collaborative workshops equipped with tools for making and learning). Often founded by grassroots tech communities, maker hubs exemplify the TP ethos by encouraging knowledge sharing, creativity, and peer-to-peer support (Bruns, 2007; Gauntlett, 2011; Mariotti et al., 2024). They illustrate how TPs can also be sites of productive activity (e.g. coding, crafting, prototyping) without losing their communal character. Recent studies highlight that innovation hubs frequently overlap with work-oriented third places as they sometimes host coworking areas, offices, and meeting zones that function as everyday workplaces while fostering experimentation, learning, and social interaction (Mariotti et al., 2024).

It is important to note that real-world TPs frequently bridge these categories. For instance, a single venue might combine cultural and educational roles (a gallery that hosts lectures and neighbourhood meetings), or serve both leisure and work functions on different days. Many TPs also involve a mix of public and private ownership or sponsorship: a city government might provide a community centre space, while volunteers or entrepreneurs animate it with TPs dynamics (Levy-Waitz, 2018). The flexible use and adaptive nature of these spaces are precisely what grant TPs their resilience and broad appeal (Jeffres et al., 2009). Each type, however, shares the fundamental trait of cultivating informal social interaction and community bonds in an accessible setting.

As urban social spaces diversify, scholars have begun to identify gaps in TP theory regarding green or nature-integrated community sites. Traditional TP research has largely focused on built environments (cafés, bars, malls), yet natural settings like parks or CGs can equally facilitate social cohesion. Studies show that exposure to nature in communal contexts can act as a social catalyst, strengthening neighbourhood ties and well-being (Haase, 2022; Jennings, 2019). Recognising this synergy between sociability and nature, we posit the need for a new sub-category of TPs. In the next section, we introduce the concept of NTP which merges the social functions of TPs with the ecological and restorative benefits of green spaces, a fusion exemplified by CGs as living laboratories of socio-ecological engagement.

### 3. Natural third places

Building on the previous discussions of CGs and TPs, we define NTP as community-managed green spaces (exemplified by CGs) that function as TPs in the Oldenburgian sense while also embedding socio-ecological values. TPs refer to informal public gathering settings separate from home and work, characterised by neutral ground, regular visitors, inclusive ambience and the fostering of community ties (Oldenburg, 1991). CGs share many of these social qualities, they are neighbourhood hubs where residents gather voluntarily and informally, but they introduce a natural element into the TP concept. Integrating nature into daily communal life creates a socio-natural space that blurs the line between social and ecological systems in the city (Eizenberg, 2012). This hybrid character is central to NTPs, aligning them with socio-ecological transition goals by simultaneously fostering community and environmental stewardship (Jennings, 2019; Kingsley et al., 2019). In effect, CGs as NTPs become ‘hybrid spaces’ of social and natural engagement, expanding the scope of traditional TP theory into the realm of urban sustainability.

Viewing CGs through a TP lens reveals both commonalities with traditional TPs and distinctive features. In conventional CGs, the primary focus is often on horticulture or food production for a defined group of members, whereas as TPs they are conceived as more open, inclusive social environments for the broader community. Table 4 below contrasts traditional CGs with CGs understood as TPs across key dimensions (social, economic, spatial, and ecological) highlighting how the NTP framing extends the role of CGs beyond gardening.

As the Table 4 suggests, conceiving CGs as NTPs broadens their purpose and audience while addressing previous conceptual gaps. Socially, a NTP emphasises inclusivity and everyday sociability: it is ‘neutral ground’ open to all, not only to those tending plots (Oldenburg, 1991). Empirical studies show that when CGs operate as open TPs, they can

**Table 4.** Key dimensions differentiating traditional community gardens from community gardens as natural third places (Source: Author).

| Dimension                  | Traditional CG                                                                                                                                                                                | CG as TPs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Social                     | Primarily engages a core group of gardeners; social interaction is a by-product of tending plots and often limited to members.                                                                | Serves as a neutral gathering ground for the wider community, fostering informal interactions, intergenerational contact, and social inclusion (Firth et al., 2011; Oldenburg, 1991). Deliberate efforts (e.g. open gates, community events) welcome diverse participants beyond the gardeners themselves, aligning with the ‘leveling’ effect of TPs (Sennett, 1973).                                                                                                                                                                                                         |
| Economic                   | Provides produce for personal use or local sale; economic impact is limited to gardeners’ savings and small-scale surplus sharing.                                                            | Contributes to local resilience and mutual aid economies: improves food security, develops skills, and sometimes incubates micro-ventures (e.g. seed exchanges, compost co-ops) that benefit the neighbourhood (Phillips, 2010; Rivas-Aceves & Schmidt, 2022). Emphasis on volunteerism and sharing exemplifies non-monetary value creation (Rosol, 2012), although heavy reliance on unpaid labour can raise concerns about sustainability and equity.                                                                                                                        |
| Spatial/<br>Governance     | Often a fenced or semi-private parcel allocated for gardening; governance is informal or limited to members. Land tenure is frequently precarious (temporary leases or permissive occupancy). | Functions as an open community space integrated into the neighbourhood fabric. Participatory governance is emphasised: residents co-design and co-manage the space (Petrescu et al., 2016), exemplifying co-construction of the commons. This collaborative stewardship challenges conventional property regimes by asserting a community ‘right to the city’ (Lefebvre, 1991; Staeheli et al., 2002). Deliberate design interventions (e.g. adding benches, shade, bulletin boards) make the garden inviting as a public place rather than exclusive territory (Whyte, 1980). |
| Ecological/<br>Educational | Focus on cultivating plants and providing urban green space; environmental benefits (urban greening, biodiversity) are incidental and educational aspects are informal.                       | Serves as a living laboratory for urban sustainability and environmental learning. Participants and visitors gain hands-on ecological education by engaging in gardening, composting, and habitat creation (Kingsley et al., 2019; Laigle, 2013). The deep human-nature connection cultivated in these spaces reinforces pro-environmental behaviours and community-based resource management (Ostrom, 1990; Eizenberg, 2012), positioning the garden as an urban commons for shared ecological stewardship.                                                                   |

strengthen trust, social cohesion, and sense of belonging among diverse neighbours (Firth et al., 2011; Ohmer et al., 2009). At the same time, we caution against romanticising these spaces as inherently harmonious. Like other TPs, they are not immune to exclusion or conflict. For instance, volunteer-run gardens might inadvertently cater to those with more free time or similar cultural backgrounds, potentially alienating others, a dynamic noted in critical studies of community gardening as a neoliberal strategy reliant on middle-class volunteerism (Rosol, 2012). Power imbalances can surface in decision-making, and some ‘community’ gardens may actually reproduce social exclusivity (Eizenberg, 2012). Acknowledging these challenges, our NTP framework stresses continuous reflexivity and outreach. Garden-TPs must actively work to maintain the ‘leveling’ ethos of TPs (Sennett, 1973), for example, by rotating leadership, soliciting input from

underrepresented groups, and programming activities that appeal across age, class, and culture, so that they truly function as open commons rather than closed clubs.

Economically, treating CGs as TPs highlights their contributions to community resilience and local livelihoods beyond what a traditional garden model might acknowledge. These spaces provide tangible benefits like fresh produce, but equally important are the intangible assets they generate: new knowledge, social capital, and a culture of sharing (Rivas-Aceves & Schmidt, 2022). Participants collectively learn and practice resourcefulness, for example, saving seeds, bartering excess crops, or teaching each other DIY skills; which builds capacity to withstand economic or environmental stresses at the community level. Such grassroots resilience aligns with the idea of ‘resourcefulness’ as opposed to top-down ‘resilience’ (Derickson & MacKinnon, 2015). However, resilience is not an unqualified good: as Derickson and MacKinnon (2015) argue, simply celebrating community resilience can depoliticise hardship and shift burdens onto civil society. We therefore frame the economic dimension of NTPs as commons-based resilience (Petrescu et al., 2016), wherein communities collectively create new economic circuits (e.g. tool libraries, seed sharing workshop) while also advocating for structural support (access to land, funding). In practice, some CGs have successfully partnered with municipalities or nonprofits (through grants, produce donations, etc.), demonstrating that NTPs can be leveraged to tackle poverty and food insecurity when linked with institutional support (Rivas-Aceves & Schmidt, 2022). The economic role of NTPs is thus twofold: they provide micro-level benefits (personal savings, entrepreneurship opportunities, job skills) and embody alternative economic principles (cooperation, commons) that challenge the purely market-driven use of urban space (Bollier, 2007).

Spatial and governance considerations are especially salient for NTPs, given that many CGs occupy contested urban spaces. Unlike purpose-built parks or plazas, CGs often emerge in vacant lots, derelict plots or other interstitial spaces not initially intended for public gathering. In Western cities, this means they frequently exist under uncertain legal conditions, for example, a CG might be tolerated on municipal land without formal protection, or operate through a short-term lease on private land (Lawson, 2005; Schmelzkopf, 1995). Recognising a CG as a TP underscores the need to secure its tenure and integrate it into urban planning frameworks, rather than treating it as an interim use. History has shown that without legal safeguards, even long-standing community gardens can be threatened by development or municipal policy shifts (Schmelzkopf, 1995). Conflicts in New York City and elsewhere highlight how the ‘commons’ logic of CGs (shared public benefit from idle land) often clashes with traditional property rights regimes (Staeheli et al., 2002). For instance, Blomley (2008) describes how gardeners negotiate property boundaries and challenge the notion that unused land must be commodified. NTPs thus invite innovative governance arrangements. Many cities have begun to formalise support (e.g. land trusts, garden licensing programmes, participatory budgeting for community spaces) to protect such gardens as commons. Indeed, the participatory governance inherent in NTPs, where local volunteers, associations, and sometimes officials co-manage the space; exemplifies co-production of public space (Petrescu et al., 2016). This approach can institutionalise CGs as part of the urban commons without stripping them of their grassroots character. For example, some municipalities in Europe designate CGs as public amenities co-run with citizen groups, blending bottom-up and top-down governance (Eizenberg, 2012). Additionally, deliberate design

and planning choices can reinforce the spatial openness of these TPs. Research on public space design shows that small interventions like transparent fencing, welcoming signage, seating areas, and visible pathways can make an enormous difference in inviting broader community use (Whyte, 1980). Our analysis found that CGs explicitly conceived as TPs tended to incorporate such features, as opposed to gardens focused only on production which might prioritise allotment layout over social space.

The ecological and educational roles of NTPs further distinguish them from other kinds of TPs. Oldenburg's TP concept was rooted in social interaction and conviviality, largely in built settings like cafés or barber shops. CGs, by contrast, introduce an environmental dynamic: they are sites where people interact with each other and with urban nature. In NTPs, environmental stewardship and learning are explicit objectives alongside social cohesion. CGs functioning as TPs often host workshops, school visits, or public demonstrations on topics such as composting, pollinator gardening, or climate adaptation, effectively turning these sites into informal open-air classrooms (Kingsley et al., 2019). This aligns with the notion of the city as a living laboratory for sustainability transitions (Audet et al., 2019), where citizens collectively experiment with greener lifestyles and share practical ecological knowledge. Crucially, the learning that occurs in NTPs is experiential and dialogic: instead of top-down instruction, knowledge is co-produced through hands-on activities and peer exchange (Laigle, 2013). Such participatory education fosters what sociologists term ecological citizenship, as individuals develop a sense of responsibility and agency in addressing environmental issues at the local level (Wonjin et al., 2021). However, even this laudable educational aspect demands a critical perspective. We note that not all community members may have equal ability to engage with garden-based education: barriers like time, physical accessibility, or cultural relevance can limit who benefits. Successful NTPs therefore implement inclusive practices: for example, some gardens schedule events on weekends or after work hours to accommodate different work schedules, provide raised beds and path surfaces to include people with disabilities, and offer multilingual signage or programming in diverse languages to reach immigrant communities. Projects like the Art Garden Ganja<sup>2</sup>, which combines art and ecology in Azerbaijan, or Matsegården Stigsbo<sup>3</sup> in Sweden, which integrates cultural activities on a farm, show how broadening the focus beyond gardening per se can draw in new participants and strengthen community buy-in.

Beyond CGs, the concept of NTPs can encompass a broader spectrum of grassroots green spaces where social and ecological objectives consciously intersect. We emphasise that NTP is a flexible category that includes, but is not limited to, CGs. For instance, occupied or reclaimed spaces known as ZADs<sup>4</sup> (*Zones à Défendre*, 'Zones to Defend') in France exemplify radical NTPs: these are spaces where environmental protest and communal living merge, such as the famous Notre-Dame-des-Landes ZAD which evolved into a self-organised zone combining farming, education, and political activism. While more contentious than a typical urban garden, a ZAD functions as a TP for its participants (a site of solidarity, shared meals, debate, and collective experimentation) and as a manifestation of the urban (or in this case, semi-rural) commons being directly defended by citizens (McKay, 2011). Other innovative examples include participatory biology labs and 'green' makerspaces (e.g. the BlueCity Lab<sup>5</sup> in Rotterdam or the Green Fab Lab<sup>6</sup> in Barcelona), which operate at the intersection of community, technology, and ecology. These labs invite residents to collaborate on sustainable technologies (like circular economy

experiments or urban farming research) in a social setting, essentially creating TPs oriented around ecological innovation. They illustrate how the NTP concept can extend into domains of urban experimentation and ‘do-it-together’ science. Even cultural venues with strong ecological components, for example, a community-run nature interpretation centre or an art space focused on environmental themes, can be analyzed as NTP if they deliberately cultivate open, participatory atmospheres and connect people to nature. What unites these varied cases with CGs is a common ethos of co-creation and shared benefit: they are public-spirited, hybrid spaces managed by communities to produce both social connection and environmental value. They align with the idea of urban commons where citizens collectively manage a resource or space for mutual gain (Ostrom, 1990; Bollier, 2007). No scholarly typology TPs to date has explicitly highlighted these ‘socio-ecological’ TPs; our contribution is to foreground them and argue for their relevance in understanding urban transformations.

#### 4. Conclusion

This paper set out to synthesise insights from urban geography, TP theory, and socio-ecological systems to conceptualise CGs as NTP. By integrating these perspectives, we introduced a novel framework that views CGs as spaces simultaneously fostering informal social ties and environmental stewardship in cities. In doing so, we extend Oldenburg’s TP concept beyond traditional venues (cafés, libraries, etc.) into the realm of urban green commons (Oldenburg, 1991). This theoretical contribution expands the TP literature by illuminating a socio-environmental dimension: CGs emerge as hybrid social-natural sites that nurture community cohesion and ecological resilience (Valentim et al., 2025). In essence, NTP bridge the gap between social urban infrastructure and urban sustainability transitions, offering a holistic lens to understand the role of community-driven green spaces in contemporary cities (Neville, 2020).

Findings from the structured literature review underscore that CGs indeed fulfil the dual role of social hubs and environmental assets. On the social side, CGs reduce isolation and strengthen neighbourhood bonds, functioning much like classic TPs that cultivate local social capital and a sense of belonging (Ohmer et al., 2009; Poljak Istenič et al., 2023). Participants in community gardening projects often report enhanced trust, community engagement, and collective efficacy, affirming the capacity of these spaces to act as inclusive forums for informal sociability and mutual support (Valentim et al., 2025). At the same time, CGs promote eco-responsible practices and urban greening, for example, converting vacant lots into productive landscapes, encouraging composting, and supporting biodiversity. Such grassroots initiatives contribute to broader socio-ecological transitions by fostering environmental awareness and sustainable habits at the community level (Audet et al., 2019; Neville, 2020). By bridging community development and environmental stewardship, CGs exemplify NTP that generate co-benefits: they not only provide informal gathering places, but also serve as catalysts for urban sustainability and resilience. This synthesis of the literature reinforces our framework’s premise that the social and environmental functions of CGs are deeply interwoven. It advances knowledge on NTP by clearly illustrating how the convivial atmosphere of a TP can be married to the greening and adaptive capacity of urban nature (Poljak Istenič et al., 2023).

Notwithstanding these contributions, we must acknowledge several limitations of our approach. First, the study relied on a structured literature review rather than a fully systematic or meta-analytic review. This structured approach, while suitable for exploring an emergent conceptual convergence, did not attempt an exhaustive coverage of all possible sources. Instead, it focused on integrating diverse interdisciplinary literature to build our framework. As a result, there is a risk of selection bias, and some relevant works may have been omitted. A more strictly systematic review might yield different emphases, but was beyond our scope given the exploratory, heuristic aim of this research. Second, our analysis is inherently conceptual and qualitative: we did not collect new empirical data or conduct fieldwork to validate the NTP concept. The arguments and framework proposed are grounded in existing studies and theory, but their practical impact remains to be tested. This lack of empirical validation means our conclusions should be seen as propositions to inform future investigation, rather than definitive empirical generalisations. Third, the scope of our synthesis was purposefully narrowed to the socio-environmental functions of CGs, and we did not delve into important operational dimensions. For instance, issues of governance, organisational structure, and financing in CGs, which certainly influence their longevity and inclusivity, are not addressed in our review. These managerial and economic aspects (e.g. how gardens secure resources or navigate institutional support) lie outside our focus, even though they are noted in literature as significant for TPs and community spaces (Phillips, 2010). Recognising these gaps, we concede that our conceptual framework provides only a partial view, and the NTP idea would benefit from further examination that incorporates these practical realities.

Building on these insights and limitations, we propose several directions for future research and practice. Empirical studies are needed to apply and test the NTP framework in varied urban contexts. Comparative case studies could investigate CGs in different cities and cultures to see how the TPs characteristics manifest across contexts, for example, contrasting Western European cases with those in postsocialist cities or the Global South (Poljak Istenič et al., 2023). Such cross-contextual research would illuminate how socio-cultural, economic, or policy differences shape the role of CGs as TPs. Another promising avenue is to explore the integration of NTPs into urban policy and planning. City planners and policymakers might examine ways to support CGs as part of social infrastructure and green infrastructure strategies. This includes considering CGs in urban development plans, providing institutional support or land access, and recognising their contributions to public health and climate resilience. Prior work has suggested bringing food and gardening spaces onto the urban policy agenda (Pothukuchi & Kaufman, 1999), and our framework reinforces that idea with a socio-ecological twist. Future research could evaluate existing policy models (for instance, municipal CGs programmes or urban agriculture ordinances) to identify how embracing the TP concept might enhance community engagement and sustainability outcomes. Additionally, scholars may extend the concept of NTP beyond CGs to other types of green commons or hybrid spaces (e.g. urban farms, pocket parks, or green coworking hubs), assessing whether similar social-environmental dynamics occur there. Finally, addressing the noted gaps, further studies should examine the organisational and financial dimensions of CGs as community spaces, for example, how management practices or funding models impact their social inclusivity and ecological functionality. Such inquiries would not only strengthen the

theoretical model but also provide practical guidance for communities and organisations seeking to establish or sustain these gardens.

In conclusion, conceptualising CGs as NTPs offers a richer understanding of how informal public spaces and nature intersect to support urban life. This article has advanced the discourse by clearly articulating the socio-environmental significance of CGs, showing that they are more than leisure or aesthetic amenities, but key nodes of social interaction, cultural expression, and ecological learning in the city. By naming and framing CGs as NTPs, we invite urban geographers, sociologists, and planners to recognise these sites as integral to the urban fabric: places where community bonds and environmental stewardship coalesce. This perspective paves the way for more nuanced research and action on urban sustainability. Ultimately, embracing the concept of NTPs can help scholars and practitioners alike to reimagine and leverage CGs as catalysts for more inclusive, resilient, and sustainable urban futures.

## Notes

1. Prinzessinengärten Collective Berlin, <https://www.visitberlin.de/en/prinzessinnengarten>, accessed in 2025.
2. Art Garden Ganja, <https://www.instagram.com/artgardenganja/?hl=en>, accessed in 2025.
3. Matsesgarden Stigsbo, <https://www.visitdalarna.se/en/matsesgarden-stigsbo-korda-art-motion>, accessed in 2025.
4. ZAD, <https://zad.nadir.org/?lang=en>, accessed in 2025.
5. BlueCity Lab, <https://www.bluecitylab.nl>, accessed in 2025.
6. Green Fab Lab, <https://greenfablab.org/about/>, accessed in 2025.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Notes on contributor

*Fanny Téoule* is a joint PhD candidate in Urban Studies between the Jagiellonian University (Poland) and the University of Mons (Belgium). Her research focuses on participatory governance, community gardens, and the socio-ecological transition of cities. Through a comparative and interdisciplinary approach, she explores how collective practices of co-creation reshape urban commoning and green infrastructures.

## Data availability statement

No new data were created or analyzed in this study. Data sharing is not applicable to this article.

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